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EXPERIMENTAL AND DEMONSTRATION MANPOWER PROJECT FOR TRAINING AND PLACEMENT OF YOUTHFUL INMATES OF DRAPER CORRECTIONAL CENTER, ELMORE, ALABAMA. FIRST DISSEMINATION REPORT.

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THE PRIME OBJECTIVE OF THE DISSEMINATION PHASE OF THIS EXPERIMENTAL AND DEMONSTRATION PROJECT WAS TO CREATE AND MAINTAIN GOOD PUBLIC RELATIONS TO FACILITATE EFFORTS TO PLACE GRADUATES IN JOBS AND TO SOLICIT COMMUNITY VOLUNTEERS WHOSE AREAS OF EXPERTISE COULD IMPLEMENT HEALTH, SAFETY, AND ENRICHMENT PROGRAMS FOR THE TARGET POPULATION. ACTIVITIES DURING JUNE INCLUDED PREPARING AND EDITING MATERIALS FOR EIGHT DISSEMINATION CONFERENCES, ANSWERING 26 REQUESTS FOR 636 PIECES OF PRINTED MATERIALS, MAKING 15 CONTACTS WITH NEWS MEDIA, DISTRIBUTING TWO PRESS RELEASES AND THREE PRESS KITS, DELIVERING SIX SPEECHES, AND PREPARING FIVE AUDIOVISUAL PRESENTATIONS, A SLIDE PRESENTATION, AND A SOUND TAPE TO ACCOMPANY THE SLIDE PRESENTATION. THE APPENDIX INCLUDES--(1) "DRAMATIC APPLICATIONS OF EDUCATIONAL TECHNOLOGY IN CORRECTIONS" BY JOHN M. MCKEE, (2) "DEVELOPMENT, EVALUATION, AND USE OF PROGRAMED MATERIALS AS DEVELOPED IN THE DRAPER EXPERIMENTAL AND DEMONSTRATION PROJECT," AND (3) "THE ROLES OF THE TEACHER FOR THE EFFECTIVE USE OF PROGRAMED INSTRUCTION IN A CORRECTIONAL SETTING" BY DONNA M. SEAY. A FACT SHEET AND A SCHEDULE FOR A PROJECT VISITOR ARE INCLUDED. OTHER DISSEMINATION REPORTS ARE VT 004 372, VT 005 715, AND VT 005 716. (EM)

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Dissemination Report

June 1967

MDTA VOCATIONAL EXPERIMENTAL-DEMONSTRATION PROJECT
for
TRAINING AND PLACEMENT OF YOUTHFUL OFFENDERS

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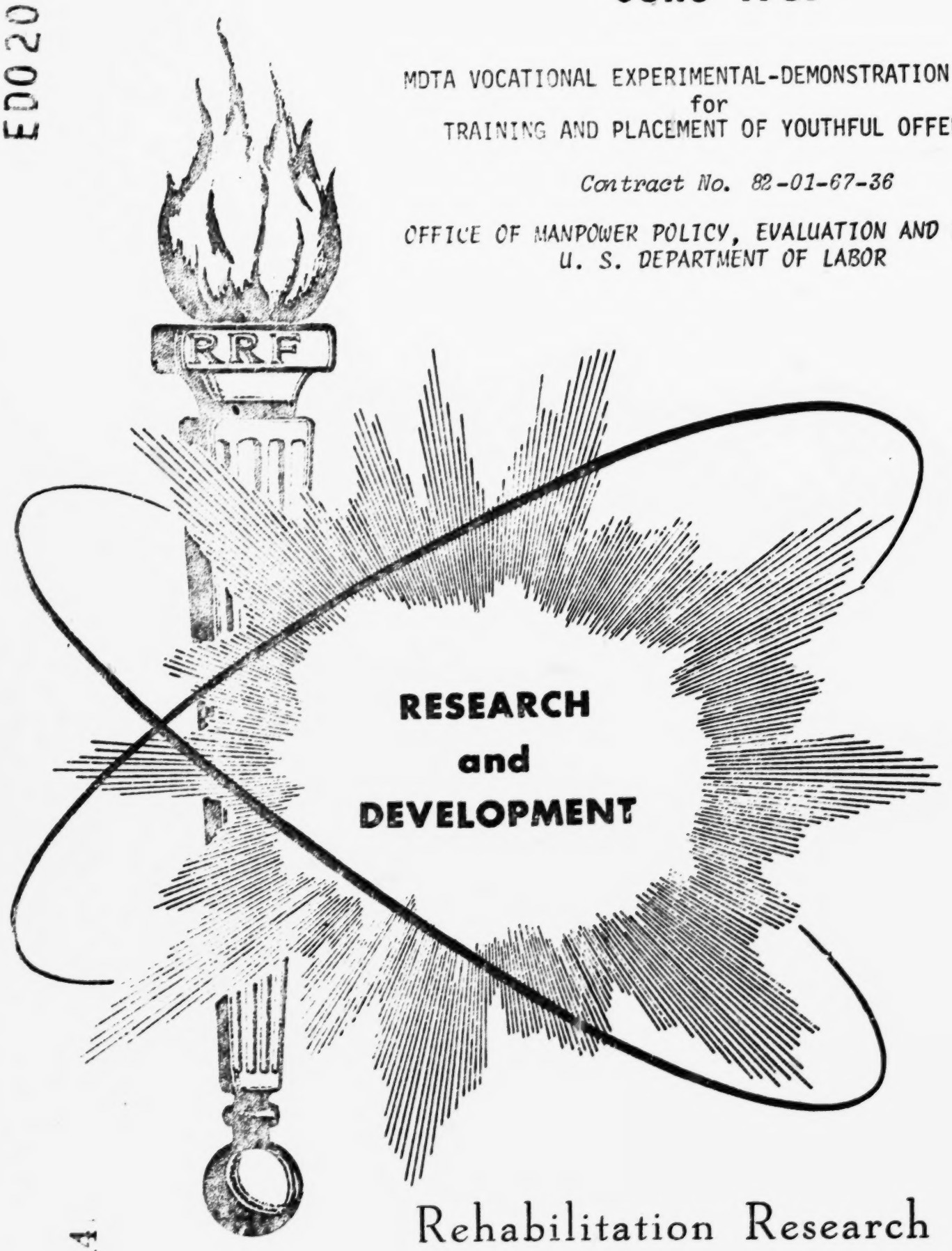

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Rehabilitation Research Foundation
DRAPER CORRECTIONAL CENTER
ELMORE, ALABAMA

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FIRST DISSEMINATION REPORT

June, 1967

EXPERIMENTAL AND DEMONSTRATION MANPOWER PROJECT FOR TRAINING AND PLACEMENT OF YOUTHFUL INMATES OF DRAPER CORRECTIONAL CENTER, ELMORE, ALABAMA

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Preface

This report on the dissemination phase of a special manpower project was prepared under a contract with the Office of Manpower Policy Evaluation, and Research, U. S. Department of Labor, under the authority of the Manpower Development and Training Act. Organizations undertaking such projects under Government sponsorship are encouraged to express their own judgment freely. Therefore, points of view or opinions stated in this document do not necessarily represent the official position or policy of the Department of Labor.

Introduction

When the Draper MDT E&D project began in 1964, the prime objective of the dissemination phase was to create and maintain good public relations. It was hypothesized that good public relations would facilitate our effort to place graduates in jobs. Thus, dissemination was initially the responsibility of the job development and placement officer. This dissemination-public relations program had two objectives:

(1) to create a climate favorable to efforts directed toward placing graduates in jobs, and

(2) to solicit community volunteers whose areas of expertise would enable us to implement health, safety, and enrichment programs for our target population.

These purposes were accomplished through an active public relations campaign. Speeches were made to professional and trade groups, colleges, and community service organizations. News media were contacted and invited to visit the project. Frequent press releases kept our activities in the forefront of the public's awareness. However, we soon found that once the initial interest had been created, the project's supporters wanted to know what was happening to specific individuals, programs, classes, or to experimental approaches being tried. They wanted follow-up data.

The responsibility for dissemination thus devolved upon the historian, whose responsibility for reporting on-going activities to the contracting office enabled her to supply current information to others, upon request. The progress report, a compilation of activities and findings, was prepared by the historian bi-monthly. The initial mailing list had about 50 names. The demand for follow-up information swiftly expanded this list; soon, 300 copies of the report were being prepared. It was found that 300 copies were still not sufficient. We frequently had to make second printings of the progress report to satisfy the demand for current information.

As soon as we began to accumulate and analyze data on the various components of our overall program, increasing numbers of professional societies invited key staff members to speak, to make presentations, or to serve on panels. These dissemination efforts were always followed by requests for reprints of the information presented. We soon found we were not only mailing progress reports to an interested public, but we were also providing more specific, technical data to professionals in related fields.

Requests not only for publications, but for structured training-type seminars, led to a more sophisticated dissemination effort. They also led to the realization that we would have to form a unit whose prime responsibility would be to coordinate the various dissemination phases. In our 1966 proposal for renewal, provision was made for such a unit.

This unit would be headed by a person experienced in staff training and development and would be supported by a writer who had background and experience as a public information specialist. A retired civil servant with more than 30 years' experience in staff development and conference coordination was employed to head the unit in September, 1966. He immediatly inaugurated a series of in-service training sessions which were designed to prepare staff members for actual participation in dissemination conferences.

In the fall of 1966, dissemination conferences were held for a small group from Puerto Rico and a group of 21 from Hawaii. With the passage of Section 251 of the Manpower Development and Training Act, it became evident that even greater demands for information about correctional manpower training programs would have to be met. The U. S. Department of Labor fully appreciated this need and began to formulate plans for a series of nationwide dissemination conferences. Such conferences would permit dissemination of guidelines, experiences, and findings of the three E&D pilot programs in correctional settings and would also serve as forums for interchange of ideas among participants. Draper's experiences would be described together with those of the other E&D pilot projects. Consequently, a broad range of ideas and guidelines was envisioned to provide maximum assistance to states and organizations contemplating the establishment of correctional manpower training programs.

In February, 1967, we engaged a public information specialist (writer) to complete the dissemination unit. By March, the time and place of the

first dissemination conference had been fixed--May 22-25, Montgomery, Alabama. Dissemination continued with the distribution of informational materials, progress reports, and the fulfillment of speaking engagements. Mini-conferences in Washington laid the groundwork for the first formal dissemination conference which soon became the primary area of concentration for the Dissemination Unit. In late April, the Public Information Coordinator resigned because of ill health. Rather than delay the conference planning while we searched for a replacement, the historian was assigned to temporarily head the unit. This assignment brought the compilation of the progress report directly under the Dissemination Unit. The unit has continued to operate with this structure. Although all staff members are indirectly involved in the work of the unit, substantial cooperation from the Materials Development Unit makes it possible for us to meet all demands for information.

Summary

This first Dissemination Report will, of necessity, contain the bases which will be used as a yardstick to measure future reports. Thus, all activities reported this month are reported in relation to the total accomplishments of this project in its dissemination phase.

The primary activity of the Dissemination Unit during June was preparation of material from the Draper Conference (May 22-25) for editing and inclusion in the formal proceedings. This editing and printing will be done in Washington, and it is hoped that the proceedings will be published in October. The second Dissemination Conference is scheduled for July 23-26 in Houston. It will be jointly sponsored by the Rehabilitation Research

Foundation and the University of Houston's College of Business Administration. Some of the Foundation's staff members have already begun to disseminate guidelines to the College of Business Administration so that our experiences may be of value to them in preparing for this conference.

It is important to note that this reporting period was not a normal one. The vocational school and its auxiliary classes--remedial and supplementary--were closed from June 2-19, and the instructors took their annual leave. It was closed again from June 28-30 while the entire staff attended the three-day State Training Conference for MDT personnel. Reporting for this month thus deals with a period of eight working days.

Despite this brief period of formal operation, staff members participated in seven conferences. At nearly all of these conferences, staff members assumed an active role, either as speakers, workshop leaders, or resource people. In addition to participation in formal conferences, we also exhibited a velcro board display and distributed materials of the Foundation's two experimental projects at a District Conference on Crime and Delinquency. See Section I--Conferences, for details.

Twenty-six requests for printed materials were received during June. In filling these requests, 636 publications were mailed, bringing the total number of publications distributed to 2110. This month, publications were sent to fifteen states, the District of Columbia, and Canada. Section II--Publications, contains a more precise breakdown.

A broad range of public relations activities continued. Fifteen contacts were made with the news media, and two press releases were prepared. This

brought the number of press releases prepared to 54. There were no formal press conferences during the current reporting period, and only three press kits were distributed (for a total distribution of 75). Six speeches were prepared and delivered, and five audio-visual presentations were created for use with these speeches. Work continued on preparation of a formal slide presentation. One tape was produced to accompany a slide presentation. Section III--Public Relations--contains details of all public relations activities.

The closing of the vocational school for two weeks in June and the three-day project shutdown were reflected in the number of visitors. Only three people visited the project. Their affiliations and reasons for visiting the Draper project are listed in Section IV--Visitors.

In July, we will be reporting on the Houston Dissemination Conference. We also anticipate completing our formal slide presentation, preparing the 15th Progress Report for publication, and maintaining on-going dissemination activities through programs for visitors, participating in conferences, distributing published materials, and continuing all other phases of an active public relations program.

SECTION I. CONFERENCES, SPEECHES, AND EXHIBITS

June 3 - 5 Mrs. Donna Seay, Program Director, attended the 26th meeting of the Southern States Prison Association and the 31st meeting of the Southern States Probation and Parole Conference (combined) in Myrtle Beach, S.C. at the invitation of the Alabama Commissioner.

June 5 - 6 Mrs. Seay attended a meeting of the Southeastern Manpower Advisory Committee in Columbia, South Carolina, addressing the group on Monday evening concerning the history and background of the new Manpower Training Association and speaking briefly again on Tuesday to state the objectives of the new association and describe benefits of membership.

June 6 - 9 Dr. John McKee, Project Director, and Donna Seay, Program Director, attended the second Mini-Conference in Washington, D. C. to plan for the Correctional Manpower Training Conference to be held in Houston in July.

June 5 - 7 Dr. John McKee, Project Director, attended the 16th Annual Conference on Correctional Education, Center for the Study of Crime, Delinquency and Corrections, Carbondale, Illinois. He addressed the general session on "Dramatic Applications of Educational Technology in Corrections," a copy of which appears as Appendix A

June 10 Anne Adams, Historian, carried the exhibit and printed material to the 9th District Conference on Crime and Delinquency in Seymour, Indiana. For this exhibit, a tape had been prepared which, when used with the slide carousel, gave a 10 minute overview of the Foundation and its activities.

June 12 John Nagle, Follow-up Counselor, addressed the East Lake Lions Club of Birmingham on the "Community Sponsorship Program." There were about 75 Lions present, and they all were very receptive to Mr. Nagle's talk and the philosophy behind it. The speech was followed by a lively question and answer period.

June 19 - 23 Mrs. Seay attended the Tennessee Manpower Development and Training Workshop in Cookeville, Tennessee, and spoke on "Use, Development, and Evaluation of Programmed Materials as Developed in the Draper Experimental and Demonstration Project," which appears as Appendix B. Mrs. Seay also gave background on the organization of the Manpower Training Association and promoted membership in the new professional organization.

June 23 Dr. McKee gave an overview of the Draper projects, highlighted by a slide presentation, to the 38th meeting of the Florida Council on Crime and Delinquency, held in conjunction with a meeting of the Florida Correctional Education Association in Daytona Beach, Florida.

June 28-30 The entire staff attended the Alabama State Manpower Development and Training Conference in Montgomery. On one day, workshops dealt with such subjects as counseling, basic education, teaching theories, and the effective use of audio visual aids. On another, the conference participants were divided into groups according to their specific job areas: guidance, vocational training, supervision and administration, or basic/remedial education. Each of the four groups was given intensive instruction on various subject areas involved in the specific job. Mrs. Seay presided over the general session on Thursday, June 29; she addressed the basic/remedial training group on "The Role of the Teacher for Effective Use of Different Types of Instruction in an MDT Setting" (See Appendix C.); and she led the summarization on Friday, June 30. W. Malon Graham, the Supplementary Instructor, demonstrated the use of films in instruction to the entire conference on Wednesday; addressed the basic/remedial training group on "Enrichment of Individualized Instruction;" and was appointed to the State Membership Committee of the Manpower Training Association. Dr. McKee addressed the Guidance Group on "Trainees--Their Abilities. Aspirations, Needs, and How to Meet Them."

Martha Terry, Program Editor, explained how to select appropriate programmed instructional materials.

SECTION II. PUBLICATIONS DISTRIBUTED

During June, 26 requests for printed materials were received. Twenty-one of these requests were made in letters, three were the result of phone calls, and two were made by visitors. A total of 636 pieces of printed material were distributed in this way. The distribution covered a wide geographic area including the states of New Jersey, Illinois, Colorado, Oregon, West Virginia, New York, Alabama, North Carolina, Oklahoma, Florida, Wyoming, Connecticut, Ohio, Minnesota, and Texas; the District of Columbia, and the Canadian province of British Columbia. The University of Colorado, a Work Experience Center in St. Louis, Glassboro State College in New Jersey, and the Division of Vocational Rehabilitation, Charleston, West Virginia are examples of the types of organizations from which requests for materials were received.

SECTION III. PUBLIC RELATIONS

Two events in June warranted news media contacts:

1. The June 2 graduation of 45 students who had completed six-months courses, and
2. The three-day visit of Vivek Pangphothipong of the Thailand Ministry of Education on June 12-15.

Fifteen contacts were made, and two press releases prepared and distributed (see Appendix D). Three interviews were arranged in conjunction with these events. One local television station featured the graduation exercises on their evening news shows. Five speeches were prepared for presentation. Audio visual aids were also prepared to illustrate these speeches, and a separate audio-visual presentation was prepared for use at the State MDT Training Conference.

Earlier this year, a commercial photographer was contracted to shoot a series of slides to update our existing slides and to create a more sophisticated presentation. A tape, synchronized with the automatic changer on the slide projector, was made for use at the 9th District Conference on Crime and Delinquency.

SECTION IV. VISITORS

With the school and its facilities shutdown for the larger part of June, the number of visitors decreased. However, two men did spend time with project personnel. They were Dr. Robert Currie, member of the PACE Institute Board of Directors, Indianapolis, Indiana, and Vivek Pangphothipong of Thailand. Dr. Currie visited to obtain ideas for the direction the Indiana PACE program might take. Mr. Vivek was a guest of the United States Department of State (Agency for International Development). In Thailand, he was charged with non-degree skill training for out-of school youth, operating special training centers in Bangkog. At the request of the American Vocational Association, we prepared a three-day intensive training and orientation program for Mr. Vivek. This program permitted him to spend several hours with the supervisor of each unit (guidance, materials development, shop instruction, supplementary and remedial education), and allowed him to visit the state departments of education and corrections, the prison, and other on-going manpower training projects in the prison and around Montgomery. This program, which appears as Appendix E, will form the basis for future in-depth training sessions. One highlight of Mr. Vivek's visit to Montgomery was his meeting with six Thailand officers who are students at the Air University's Allied Officers School. This meeting was arranged through the courtesy of the Maxwell Air Force Base Information Office.

APPENDIX A:

DRAMATIC APPLICATIONS OF EDUCATIONAL TECHNOLOGY IN CORRECTIONS*

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The special educational needs of the public offender are well documented. He is scarred by a history of school failure and dropout; he has been embarrassed by poverty; he comes from a home that gave not even a modicum of support to his getting an education. In view of his acquired aversion to formal education, we correctional educators must employ the best of instructional talent and technology to give the prisoner a successful and reinforcing educational experience.

Yet, by and large, prison educational programs follow traditional patterns of instruction: lecture, chalkboard with the pupil demonstrating his knowledge (or lack of it), desk chairs, and grade-level groupings. Correctional education follows traditional patterns set down by elementary and secondary public education. And like public education, we have had much discussion of individualized education but have taken little action on a systematic basis.

Of course, one problem has been how to individualize instruction beyond grouping together the "red birds," "yellow birds," and "blue birds." Only in the past few years have we been able to individualize instruction on a mass basis--to tailor a curriculum to compensate for individual differences, to manage the learning contingencies of both group and individual learners so

*This paper was presented at the 16th Annual Conference on Correctional Education, Center for the Study of Crime, Delinquency and Corrections, Carbondale, Illinois, June 5-7, 1967.

that maximum productivity is achieved, and to introduce the concept of self-management in the learning process. These things are collectively called educational or instructional technology.

Frequently, the term educational technology is thought to mean only hardware--overhead projectors, carousel slides, educational TV, and teaching machines. Equipment of this sort does serve to facilitate instruction, and it can be of enormous assistance. But modern usage of the term also includes the systematic application of behavior principles to the learning process. As Robert F. Mager says it:

> The instructional technologist is familiar with the laws of nature relating to behavior change (principles of learning), and with their application. He is able to derive and describe instructional goals in forms that are usable by the learner. He can identify environmental characteristics that facilitate and inhibit the desired behavior changes. He can describe the characteristics of a wide variety of instructional aids and devices, and can compare these characteristics with goals to systematically identify those devices and aids most appropriate to a given situation. He can construct criterion instruments by which the success of his efforts can be measured.[1]

In the Draper educational experiments, we seek to employ some of the newest developments in educational technology and discover some new approaches of our own. We have two major experimental projects at Draper--one distinctly in the area of academic education and the other primarily in vocational training. The former is funded by the National Institute of Mental Health and the latter by the U. S. Departments of Labor and of Health, Education, and Welfare, under the Manpower Development and Training Act. While sub-experiments are being conducted in each of the major projects, the following are most representative:

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[1] Robert F. Mager, "The Instructional Technologist," Educational Technology, Vol. VII, No. 9, May 15, 1967, pp 1-2.

Experiment I. Contingency Management

In an attempt to maintain a high level of learner productivity, using programmed instructional materials, this project is experimenting with techniques of "contingency management." Systematic management of learning contingencies permits precise analysis of the objects and events that are reinforcing for each learner; moreover, through the systematic arrangement and presentation of learning contingencies one can attain far more efficiency in learning by the student than is possible with conventional methods.

Besides increasing learning efficiency, there is a need in correctional education to discover and control variables that will maintain effective learning behavior for sustained periods of time. All of us are familiar with the "bugout" in our educational programs--the student who has a low span of attention, or the student who is looking for a "soft lick," who plays the "con" game with the educators. When this learner is held to a production schedule, he usually "bugs out"--quits, asks for a job change, says he's too nervous to keep his mind on anything, etc.

Our contingency management experiment was designed to solve the problem of procuring sustained productivity. Sixteen subjects (Ss) served in the experiment, which ran for a period of nine weeks. The amount of programmed instructional work to be done by each subject (S) was specified daily by means of a "performance contract." Although the amount was negotiable, the conditions of the experiment required S to increase his performance about 20 percent each week over a baseline measure taken during a three-week period just prior to the beginning of the experiment.

A "reinforcing event" (RE) was scheduled after completion of a specified part of the contract, so that throughout a single day it was possible to accumulate six break periods of 15 minutes each during which an RE could be taken by the student-subject.

The RE occurred in a special recreation room set aside for this purpose. Activity included coffee, magazines, games, the opportunity to type a letter, etc. Each day S chose from an "RE Menu" the events he wanted to engage in. The theory underlying the use of the RE is rooted in the learning principle that whenever a less pleasant response is followed by a rewarding response, the latter will reinforce the former. In the practical terms of our contingency management experiment, if learning English grammar is dull or boring to S, it will become less so when immediately followed by a trip to the RE room.

The programmed instructional materials used in the experiment were prescribed on an individual basis, but courses were primarily in the areas of language arts, math, and social studies. Only linear programs were used.

Careful records of time spent in study and of test results were kept by the contingency manager, along with productivity data.

The results of the experiment showed that under the conditions of contingency management, productivity, as measured by frame output, quadrupled. Other results are worthy of note. Number of tests taken doubled, percent of tests passed jumped from 71 to 80 percent. (Passing grade is 85 percent.)

Experiment II. Preparation for Passing the General Educational Development Test for High School Equivalency

In several of our earlier experiments we had learned the following:

(1) The GED test can be passed by over 90 percent of the inmates scoring an average grade placement of 10.5 on a standardized

achievement test. (The passing score in Alabama for the GED Test is a standard score of 35.)

(2) Reading skills are the skills most crucial to passing the GED Test.

(3) A person who places at the 8.0 grade level on a diagnostic reading test can pass the GED Test with 250 hours of programmed instruction designed to compensate for his deficiencies across the board. Sessions in reading improvement should be included.

While our data supports the above statements, our information is of a post hoc nature; therefore, we decided to test these statements out as hypotheses.

Fifteen youthful offenders at Draper Correctional Center are Ss in this experiment. Contingency management techniques are being employed with continuing good results. The crucial test of the validity of our hypotheses will be seen the day GED Tests are administered to each S.

Experiment III. Modification of Spoken English

Several years ago I congratulated a student-subject for making a high score on the final exam on a programmed English course--English 2600: "Billy, you did very well--you made 98! You are an English scholar!" Said Billy, "Thanks, Doc, this here English don't give me no trouble nohow." Being by nature a frustrated high school English teacher, this was more than I could bear. I said, "Billy, I'm starting an advanced seminar in spoken English. How about volunteering as an experimental subject for it?" "You bet, Doc, English is the onliest subject I like--them verbs and nouns and all!" To control my emotional fit, I recalled my psychological background long enough to

realize that here was a clearcut case of total absence of transfer of training or generalization of concepts, and that correct or standard spoken English would have to be taught directly, which we proceeded to do.

In the experimental seminar in spoken English, we began with sensitivity training, attuning the ear to listen discriminatingly and to analyze first another's speech, then one's own. We sought to train the subject in correct grammar, enunciation and pronunciation, and to widen vocabulary usage. After running three such seminars of about 20 sessions each, we are now formalizing the content and procedures into a training package. As for methodology, we are primarily employing operant conditioning techniques of behavior modification. Our purpose is to design a complete training package to improve spoken English rapidly.

Why are we working on this problem? Speech, like dress, tattoos, excessive drinking, job instability, and crime, marks the offender and handicaps his chances of succeeding in free society--getting a job and advancing in it, obtaining normal reinforcements available in the mainstream of social and economic life. The "stimulus value" that a person presents to the world naturally shapes the responses of that world to him. Thus, our goal is to modify the offender's stimulus value as it pertains to spoken English.

Although our interest is in the use of this speech modification package with offenders, we believe that it can be adapted to any disadvantaged population. Thus, we would view speaking standard or acceptable English as an essential step in economic and social mobility which is a goal of the anti-poverty program.

Educational technology is not new. As an applied science, it deals with the principles and practices of instruction and learning. Man has applied these principles for thousands of years, albeit in not too systematic a fashion. Perhaps we are talking more about a new approach to educational technology--a learning systems approach. One writer[1] in the field has pointed out the key elements in this new approach as follows:

> The end process is learning, not teaching. I cannot emphasize this distinction too strongly. Many of us have been so engrossed in our own roles as teachers that we have too often lost sight of whether or not learning really resulted.
>
> The process is achieved through a system. The system includes all of the equipment, procedures, facilities, program schedules, maintenance, texts, materials, and personnel required to produce the end result.
>
> The entire process must be validated. Only with validation can we be certain that the system does indeed attain the objectives originally set for it.

Learning systems are now being introduced to corrections. Examples are found at Draper Correctional Center, the National School for Boys, Cook County Jail, prisons in Michigan, California, and South Carolina. The cost of such programs is not low, but neither is the cost of crime. To do a quality educational job with special problem groups in our society, significantly more funds, personnel, equipment and research will have to be allocated. Progressive correctional leadership is realizing this fact and is now persuading the public and legislative bodies to move forward. Educational technologists: may their tribe increase!

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[1] Shetler, Richard et al, "The Systems Approach to Education" a Symposium, Part I, Educational Technology, Spring 1967, p. 9.

APPENDIX B:

DEVELOPMENT, EVALUATION, AND USE OF PROGRAMMED MATERIALS AS DEVELOPED IN THE DRAPER EXPERIMENTAL AND DEMONSTRATION PROJECT*

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When I was invited here to discuss my experiences in the development, evaluation and use of programmed materials, I assumed that you must be encountering some of the same training problems that we at Draper Correctional Center have experienced in conducting our Experimental and Demonstration Project under the Manpower Development and Training Act. Our training problems with youthful offenders stem primarily from the fact that all students enrolled in a particular vocational course do not have the same interests, abilities, or educational backgrounds. Each student is an individual with his own peculiar set of strengths and weaknesses. Consequently, each one must be dealt with on an individual basis. This fact, alone, has for years plagued educators of all grade levels, but the highly individual training needs of adults enrolled in our MDT courses demand even more attention since their training time is generally short. Today, I would like to discuss with you our solution to these individual training problems--the use of programmed instructional materials.

Programmed instruction helps an instructor to individualize his course according to the needs of each student. The results obtained with this method are most impressive. Learning is assured, even though the rate of learning

*Presented at the Tennessee MDT Teacher Workshop, Nashville, Tennessee, June 22, 1967.

varies with each person's particular ability and interest. And the use of P.I. frees the instructor from drilling tasks, allowing him to devote more time to those students who require special attention.

While instructional methods other than individualized instruction may be more appropriate for a specific instructional objective, the application of programming techniques to planning for individual or group instruction improve the student's chances of learning difficult materials. An instructor can be more effective and the student can learn more efficiently when programmed instruction is combined with these other methods.

The use of P.I. in the classroom increases the efficiency of other methods of instruction much as the thumb on one's hand adds to the usefulness of one's fingers. The hand is like a flipper, limited in its usefulness, when the fingers are used alone. Add the thumb, and the hand is able to perform many more difficult tasks. Much more can be accomplished when the thumb works along with each finger or all of them.

If you will think of the fingers as representing other educational methods--the lecture, demonstration, role-playing and discussion--then you can see that P.I. plays the role of the thumb, allowing both instructor and student to overcome many of the problems inherent in more difficult learning tasks.

Most of the materials which we have purchased for remedial or basic education are programmed. However, when we first began our project, very few programs were available for occupational training. We therefore, made provisions in our plans for the investigation and development of programmed

instructional materials. Our investigation includes the evaluation and use of published programs as well as the methodology of programming. We have developed all types of programs using the principles and techniques defined and developed by several experimenters who have systematically applied the reinforcement learning theory of B. F. Skinner.

Primarily, we use the system of mathetics, which was developed by Thomas E. Gilbert. Gilbert defines mathetics as..."the systematic application of reinforcement theory to the analysis and construction of those complex behavior repertories ususally known as 'subject-matter mastery,' 'knowledge,' and 'skill.'"[1] (It should be pointed out that, as programming has come of age, there appear to be more similarities than differences in the various programming techniques.)

The goal of every matheticist, an analyst-writer of mathetical lessons, is to work toward a genuine technology of education by combining in his programs the concepts of behavioral science with the effective practices and procedures that have always been used by <u>good</u> teachers.

Perhaps the easiest way to understand how these behavioral science concepts may be combined with effective instructional practices and procedures is to describe the mathetical system which we use in developing programmed lessons.

<u>Practices and Procedures of the MDU</u>

We use an exacting and systematic process to develop and to improve existing materials so that they are <u>student-oriented</u> and <u>student-proved</u>.

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[1] Gilbert, Thomas E., "Mathetics: The Technology of Education," <u>Journal of Mathetics</u>, Vol. 1, No. 1, January, 1962, p. 8.

The mathetical approach involves functions requiring participation of specialists as well as staff. Skilled technicians in each vocational area decide what subjects should be programmed. They also serve as subject-matter specialists by choosing for the writers the appropriate practices and procedures within the selected areas. Our vocational instructors act as specialists or experts. In addition, we usually ask other technicians or professionals in the same vocational area to verify the content of the training lessons.

In order to produce programs, we perform certain procedures which fall under the following general headings:

1. Subject Matter Selection
2. Specification of Operational Deficiency
3. Performance Requirements
4. Performance Analysis and Programming
5. Editing and Evaluation

Ordinarily, I would skip over these functions without explaining what is involved in each; however, I have recognized the value of these steps to a teacher or vocational instructor who is interested in preparing his instructional materials for each lesson he teaches. In order to have a lesson where students really learn, an instructor must use the same procedures in preparing his lesson plans that are used in programming.

Forgive me if I use technical terminology or fail to explain fully as I discuss these functions. The subject is a complicated one, and time is short. After all, it takes approximately six months to train a programmer!

1. Subject-Matter Selection

The first function, subject-matter selection, proved to be very tedious, time consuming, and costly in the initial stages. However, when we failed to give this function adequate consideration, we ended up with some lessons that did not fit into every instructor's course outline. When subject matter is properly selected, the cost of the programming is justifiable in terms of the learning time saved, and the programs have high standards and broad application to training. To make sure that subject matter is properly selected, it is necessary to first determine the extent to which a particular performance deficiency is a widespread and significant problem. In other words, there should be a large audience with a real need for the program. As a rule of thumb, we say that if over 50% of the target population knows over 50% of the material the area does not require programming. The area selected should also be one that presents teaching or learning difficulties. In short, programs are not written to replace existing materials which already do an adequate job. They are written if materials are non-existent, or if what is available does not teach well, or to supplement--to make teaching and learning easier and more effective. There are areas which are better taught by other methods, such as demonstrations or group discussion. All I am saying is that there must be a valid reason for developing a program--we do not program in a vacuum.

2. Specification of Operational Deficiency - (What do we need to teach?)

Since the only justification for a program is that it can correct an operational deficiency, the training needs and standards of effectiveness

are determined on the operational level. If the student does not know how to do something, or if he is not doing something correctly, the writer states these deficiencies so clearly that there is no doubt about the extent to which they can be overcome by subsequent training in the form of a program. The formula for assessing knowledge or skill deficiency is M-I = D. M is the master's or expert's performance; I is the initiate's or trainee's performance; D is the deficiency, the difference in the performance of the expert and the novice.

Once the operational deficiency is determined, it is translated into terms of tentative training objectives. These objectives form the guidelines for writing a detailed description of the subject matter practices and procedures. The analysis of the subject matter and the format design of the program are based on the objectives, too.

The training objectives are stated in behavioral terms--concise, measureable terms of what the trainee should be able to do after completing the program. Such ambiguous terms as "to understand," "to know," or "to appreciate" are avoided. Instead, specific behaviors are listed, such as "to write," "to identify," "to solve," or "to list."

For example, "When the student has completed the program, he should be able to mix mortar"...

or

"to identify electrical circuit symbols used by an industrial electrician"...

or

"to use a scale ruler"...

The objectives also state the conditions under which trainees are expected to perform after taking the programmed lesson.

For example: "Given the necessary materials this student will be able to mix mortar to be used in laying a brick wall" . . . Negative or delimiting requirements would be included also, that is, "This lesson does not teach how to estimate the amount of mortar needed."

Finally, the objectives specify criteria of acceptable post-program performance of the trainee, that is, the level of competence at which the student should be able to perform. These criteria are usually expressed in terms of time, percentage of correct answers on an examination, or actual demonstration of ability before a supervisor or examiner.

Training objectives are prepared with the prospective trainee population in mind. Most of our materials are designed for the disadvantaged trainee; however, the programs proved to be even more successful with other groups who were not necessarily deprived or handicapped. Regardless of our success, we always describe the design population in terms of educational levels and general background and knowledge in the areas to be covered by the program. Since it is not always possible to uncover individual deficiencies of the target population before a program is developed, it is sometimes necessary to develop remedial programs which will provide the prerequisite knowledge needed to complete a particular program. For example, our fractions laboratory was developed because the bricklayer trainees were unable to solve problems requiring the use of fractions in a series of lessons on estimating materials. Individual and field tryouts quickly uncover the remedial areas that need to be programmed.

3. Performance Requirements

Once the operational deficiency is determined (stated as training objectives) and the feasibility of a program is confirmed, the correct

performance (reflecting current, standard subject-matter practices and procedures) is determined. This is the "job analysis." Its importance can hardly be overstated, for a program can be no better than the analysis upon which it is based. Correct performance is determined by observing the actions of an expert practitioner and by questioning him about his covert actions, since covert performance is just as significant as overt. (The writers had to be trained to ferret out obscure behaviors.) To ensure accuracy, someone considered to be even more "knowledgeable" than the practitioner checks the analysis to see that the behaviors described are actually those behaviors the trainee should learn. As you would perhaps guess, the subject matter experts sometimes disagree as to what procedures or practices are correct! In such cases, the writers consult with other experts, and they also refer to the most up-to-date reference materials available. The procedures or practices used in the program are those on which most of the experts are in agreement.

4. Performance Analysis and Programming

Actually, this function and the previous one (Performance Requirements) overlap considerably. The first phase of this function consists of delimiting and organizing into behavioral terms the content of the course or program. This step is very important because it defines the initial deficit in the capability of prospective students with respect to subject-matter competency. The analysis also helps to determine the maximum "operant span" or step-size by which the student can effectively learn--that is, how much can be absorbed at one time. The notational system used in this initial analysis is called

a "perscription." In the prescription the subject matter for the program is first broken down into statements of what the trainee is to learn to do (the response, or R) and when he is to do it (the stimulus, or S). This technique reveals discrepancies which may be found in standard job analyses, and it highlights the overall behavior patterns.

After the "prescription" is completed, a final check is made for technical accuracy. It is possible at this time to determine what the program in its final form will accomplish, that is, final training objectives are formulated.

The second phase of the Performance Analysis and Programming includes a systematic analysis of the "prescribed" behavior deficit for those generalization and competition components that cause the primary learning problems for the student. This analysis answers such questions as:

1. Are there similar stimuli which may not appear similar to the student but which require the same response? For example, having learned the sound of "B," will the student know that "b" and "b" have the same sound? If your answer is "No," the generalization must be made for him.
2. Are there stimuli in the prescription which may appear similar to the student but which require different responses? For example, the scales on the Volt-Ohm-Milliammeter (VOM) almost always appear as concentric arcs which are read with the same pointer. Yet, the ohms scale is read from right to left while the scales for volts and amperes are read from left to right. Teaching strategies must be devised that will treat for such competition.

3. Is there a similar stimulus situation outside the specific behavior being taught, but in the student's experience, which may be confusing? Most household light switches are installed so that one turns the light on by moving the switch up. Suppose that a machine which the student is learning to operate is turned on by moving the switch down. He may attempt to turn the machine on in the same way he has learned to turn a light on. Again, competition must be overcome. The second phase also includes the development of outlines or "lesson plans" which show the precise teaching strategies that will be used to produce the actual "exercises"-- the term used to describe a teaching unit in a mathetical program.

The teaching strategies used in these exercises are characteristic of mathetical lessons. There is a great deal of flexibility in the layout and response requirements since mathetics is not a format system. Function determines the format. Notice the lack of uniformity of style or appearance from lesson to lesson or page to page. An exercise uses whatever is best depending on the characteristics of the behavior to be taught and the abilities of the student population. Some exercises look much like a linear frame while some may resemble a double page spread with all the design appeal of a good magazine advertisement.

All types of responses are called for in mathetical lessons. They vary from a paper and pencil type response to those involving the use of tools or simulator kits. The response is not always overt.

Because the learning situation should duplicate an actual situation as nearly as possible, extensive use of illustrations and simulations

characterizes mathetical lessons. We find that it is effective to represent a particular stimulus by using illustrations to teach the student the correct response. Illustrations and simulators assist the student in transferring his knowledge from the learning situation to the job. Our program, "Soldering Leads," is a lesson in which illustrations and simulations were used very effectively in a program. Boys were able to transfer their knowledge very easily without any help from an instructor.

In most cases, a lesser degree of simulation will work well. For example, our series on using the VOM actually has a drawing of the instrument to guide a student in its proper use. By marking on a drawing at key points or in a certain sequence a student is able to apply the knowledge to actual job performance.

The model teaching exercise presents a stimulus-response relationship at least three times: once in a "demonstration," then in a "prompt," when the student responds with assistance, and finally in a "release," when he responds without help of any cues. Students like these lessons because they are able to learn without being bored to distraction by repetition that they dislike intensely.

5. Editing and Evaluation

The first phase of this function consists of editing procedures that are generally standard; however, there are some exceptions which I shall explain.

First-draft exercises are submitted for review to the subject-matter specialist who checks the technical accuracy of each program. Any suggested

changes are usually limited to minor points such as technical terminology, and do not include change entailing extensive reanalysis and rewriting. After these changes are made, an individual tryout is conducted with a student in the design population. In tryouts and field tests, a pretest on information covered by the lesson is administered. The student (or students) then takes the lesson. A posttest is then administered. The difference in pre- and posttest scores tells us how well the lesson taught. A student's failure on certain parts of a lesson may point up needed changes. Samples of such changes may be decreasing step size, changing layout to eliminate confusion, rewording, etc. If changes are made after individual tryout, the program is resubmitted to the subject matter persons for review. The most critical phase is the evaluation which is based on the individual and field tryouts. In the individual tryout, a student takes the program under the close observation of a staff member of the Unit. Depending upon the heterogeneity of the prospective design population, from one to six such tryouts are conducted; one tryout may suffice for a highly homegeneous population. Revisions are made to correct inadequacies in the program. The cycle of tryout-revision-tryout continues until the student's performance reaches an acceptable level which is normally 85% or above on the posttest. It is this tryout procedure we think of when we say that our programs are <u>student-proved</u>.

Finally, the program is submitted to field testing, meaning that a representative sample from the prospective training population uses the program under operational conditions as close as possible to conditions of actual performance. (The results of our field tryouts

are included in the specifications of each program when it is published. A report of the field test results is included in the Programmed Lessons brochure which may be obtained from the Rehabilitation Research Foundation, P. O. Box 1107, Elmore, Alabama. The back of each lesson cover in the brochure gives the specifications for the lesson.)

Use of the Programs

Although it was impractical to fit the programmed lessons to the curricular schedule of the various field-test classes, it was possible to install the lessons in the precise place they were designed for in the curriculum of the courses at Draper. The following data give an exact picture of some of the lessons used in the appropriate place in the training schedule.

Results of Programs Used in Draper's Courses

Lesson	Pretest	Posttest	Net Gain
Mixing Mortar	28%	97%	69%
Tools & Areas of a Haircut	35%	98%	63%

Most important of all is the fact that these lessons tend to motivate the trainee to continue working. Trainees and instructors are definitely in favor of using programmed materials whenever they are available.

The flexibility of these mathetical lessons makes them ideal for training needs of vocational schools and industry where transfer of skills to actual job performance is critical. Because of their flexibility, their value is not limited to individualized instruction. We plan to use the mathetical system in programming group instruction, which could be presented through films, slides, role-playing, or other techniques.

While time does not permit me to discuss in any detail the purchase and use of commercial programs, I do want to highly recommend that instructors be provided in-service training which would teach them how to evaluate and select commercial programs for use in meeting their particular training objectives. Since the production cost for programmed instruction is greater than that for traditional materials, many publishers do not require all the developmental procedures which we at Draper go through in preparing a program. For this reason, it is essential that an instructor learn how to determine what programs will best meet the specific needs of each of his students. Then he must learn to use these programs properly if he is to provide an individualized training program for each student.

So long as the development, evaluation and use of programmed materials are properly handled by program writers and instructors, P.I. can be the solution to many instructional problems. I might emphasize, too, that an instructor who applies the principles of programming to his teaching techniques, like the instructor who learns to evaluate and use P.I. properly, will have students who learn.

APPENDIX C:

THE ROLES OF THE TEACHER FOR THE EFFECTIVE USE OF PROGRAMMED INSTRUCTION IN A CORRECTIONAL SETTING[1]

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There are several roles a teacher must play well if programmed instruction (P.I.) is to be used effectively in a correctional setting. Before the teacher's roles with offender students can be adequately discussed, however, brief mention should be made of the characteristics and needs of typical inmates.

TRAITS AND CHARACTERISTICS OF THE OFFENDER

Most members of an offender population have been economically deprived for the greater part of their lives. One Draper trainee's home in which we visited closely resembled a chicken coop and was complemented by the oft-depicted "outhouse" which served the family, however inadequately, as a bathroom. In homes such as this one, it is not uncommon to find that several members of the family sleep in the same room, some of them on the floor. Circumstances which have led members of such an environment to accept middle-class standards are the unusual; more often their social and moral values are strictly those of the lower class of society. Prostitution is common. There is little or no stigma attached to incest which occurs frequently, especially among in-laws.

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[1]Presented at the Alabama Manpower Development and Learning Conference, Montgomery, Alabama, June 29, 1967.

The offender is usually as educationally deficient as he is economically deprived. One sometimes has difficulty in discerning whether the lackadaisical achievement of the typical inmate is the result of his being educationally deprived or mentally or emotionally retarded. One 18 year-old boy whom we had in training appeared to be retarded in every way. When he first came to prison, he was unable to read or to write. Occasions on which he even spoke to anyone were rare, for he isolated himself from other inmates. The boy appeared to be so emotionally disturbed that he was incapable of responding to those who tried to communicate with him. He would not answer questions asked him, nor would he work in class. Ordinarily, this student would have been given up as hopeless and completely uneducable, but something happened which might be considered by some as a miracle. For the first time in the boy's life, someone became interested enough to patiently guide him through the struggle of learning to read and write.

To keep this student working was a difficult job, but as he improved in his ability to read and write, his emotional disturbance gradually decreased. He even learned some elementary arithmetic before he was finally paroled to a vocational rehabilitation workshop where he was able to work and, for another first time in his life, earn a small amount of money.

Often, a student from a poverty-stricken background may be found to have a very low I.Q. when tested, not because he is mentally retarded but because he has not been exposed to the middle-class values and knowledge that are assumed in the makeup of most mental maturity examinations. A trainee in our welding course who was doing quite well in shop performance encountered difficulty with his classwork because he

read very poorly. Yet, he was capable of understanding and retaining subject matter which was read aloud to him. With the guidance of his instructor and a college student who each read to him or gave oral instructions, this student graduated at the top of his class, earning the best grades in both class and shop work. Of course, his tests had to be administered orally, a task which called for a great deal of individual attention. But the trainee's ability to graduate and obtain a job in which he could earn $3 per hour was a rewarding return on the staff members' investment of time and effort. These extreme cases are cited to indicate what can be accomplished with inmate students who lack basic education, vocational training, and personal-social skills.

ROLES OF THE TEACHER

It should be emphasized that a teacher who works with inmate students must be ready to play <u>many</u> roles if his instructional program is to be effective. Three basic roles which such a teacher will play are those of <u>friend</u>, "<u>doctor</u>," and <u>manager</u>.

Friend

The instructor, as a friend, assumes the role of a counselor who knows how to ask the student questions which will reflect to the student his interest and concern. By asking questions, a friendly instructor not only learns facts but also discovers facets of the trainee's personality and emotional makeup which will guide him in establishing the kind of relationship he and the student should have. As the student answers such questions, he is often relieved of pent-up emotions, and very likely he will develop some insight into his own makeup.

So, too, will a friendly instructor listen to the student in an effort to understand his personality. An instructor who is interested enough in a student to listen carefully to his answers will reflect to that student a feeling of acceptance. It is especially important to the disadvantaged student that his instructor accept him as a person, without judging him or condemning him for past failures. An instructor who is a friend is able to do this, even though he conveys to the student that he does not approve of actions which are illegal or immoral.

To help a student solve his problems is another responsibility of the friendly instructor. By at least reflecting sympathy, the instructor can call the student's attention to the fact that there are possibly several solutions to his dilemma and thus guide the student to make decisions in his own best interest. We have found that many offenders are characterized by an idea that there is an "only one fatal" solution to a problem. Usually they expend all of their energies trying to accommodate their lives to the only solution they can visualize, but if they are taught to search for several possible solutions before making a decision in a given area, perhaps they can be led to generalize such problem-solving techniques and become able to make more intelligent decisions in all areas of their lives. If an instructor lacks the training to effectively counsel a student, then he should by all means be willing to refer the student to a counselor who is trained.

"Doctor"

In some educational programs, a counselor and an instructor function coordinately in the role of "doctor." When a counselor is available,

there should be close cooperation between him and the instructor. Both of them, as the "doctor," will diagnose and prescribe for the student's learning deficiencies. Treatment and cure for the student's learning deficiencies will be primarily the responsibility of the instructor with the counselor serving in a supportive role.

There are certain basic requirements for diagnosing learning deficiencies. The results of several types of tests, such as achievement, I.Q., personality, and occupational interest, will indicate only a few symptoms of what is lacking in the trainee's educational development. The "doctor," whether he is instructor, counselor, or both, should interview the student and others with whom the student has been closely associated, such as parents, friends, former employers, and teachers. Further, the student should be observed in class, in carrying out shop assignments, and during his involvement in prison activities. When the instructor and counselor coordinate the information gathered from test results, interviews, and observations, these "doctors" will then have enough information to diagnose at least some of the student's deficiencies. For example, results of tests indicated that one student whom we had in our bricklaying class was deficient in arithmetic. In order to pinpoint exactly what areas of arithmetic he needed most, we observed his work in class and interviewed his instructor. We learned that this boy was unable to use a scale ruler which, of course, indicated that he could not do fractions. Following this clue, a short course in fractions was prescribed for him in order to cure his inability to read the scale ruler.

The student's deficiencies must be determined as precisely as possible before a prescription for his treatment can be written. Of course, the prescription should recommend specific treatment for the academic, vocational, and personal-social needs of each individual. No two students would be given the same prescription. Students may take some of the same subjects, but the subjects may or may not be taught to a group of students as a whole.

Basic education in the areas of mathematics and language arts should be prescribed to fit the individual needs of the student. Occupational training and related information is prescribed according to a student's interest and aptitude. Distributive Education may be taught him along with a skill which requires knowledge of the marketing area in order that he may function adequately as a tradesman in an on-the-job application of his training. Service Station Mechanic-Attendant is a good example of a trade in which an employee would need training in distributive education, for an employee in this trade should know how to sell, how to take inventory, how to keep stock, and how to set up displays in addition to his skill in servicing and making minor repairs to automobiles.

Personal-social development is one of the areas in which the offender is found to be most deficient. Human relations, manners, health, grooming, budgeting, applying for a job, and citizenship responsibilities are just a few of the subject-matter areas that are essential to a developmental program. The importance of personal hygiene must be tactfully, though

insistently, impressed upon these students. They must be guided to acquire good grooming habits, such as shaving, keeping a neat haircut, shining their shoes, brushing their teeth, and sometimes even bathing. They must learn to take pride in their appearance. If a guidance approach does not work, an instructor may have to be more persistent and straightforward, for good grooming is requisite to a student's getting a job, regardless of how skilled he becomes. Other areas of training, such as the area of human relations, are definitely essential if an ex-inmate is to retain the job for which he was hired.

Treatment by a doctor, or the teacher, is dependent upon application of knowledge and practice of skill. Acquiring knowledge that can be applied to a related occupation or used in real life experiences is more meaningful to a student, especially a deprived student, than learning merely "for the sake of learning." If he knows he will actually use his newly acquired knowledge to make money, learning makes more sense to the offender trainee, and he will put forth more effort than he would make in a public school setting. An instructor should, by all means, explore methods by which the student may generalize the application of the specific knowledge and skills he is learning for a more expansive use. For instance, the bricklayer trainee who has learned to use the scale ruler in transposing blueprints into a brick wall should also learn to use the same ruler in estimating the amount of materials that will be needed to build the wall. With proper directions, he could further learn to do fractions by generalizing his knowledge of the scale ruler.

Very critical to the treatment phase is the student's practice of his newly acquired knowledge and skills, for only practice can provide the experiences that are necessary for him to develop proficiency in the skills. As he becomes competent, he develops the self-confidence he so greatly needs to overcome his fear of failure. A more confident student in turn becomes a better behaved student. Hopefully, his attitudes improve to the extent that he can be considered "cured" and capable of becoming a valuable employee.

Manager

The teacher's managing duties are to plan and organize a total educational program that will include job analysis, lesson plans, schedules, progress charts, and tests, in order that he will be able to let the student know exactly what is expected of him prior to training. Unless these steps are taken prior to training, it is impossible to carry out an individualized instructional program which will use P.I. effectively. Once his training begins, the student can progress at his own rate because he knows exactly what to do next as he completes a particular program or lesson. An advanced student becomes very discouraged if he is held back until other students catch up in a class situation where the instructor is teaching the students as a group.

Of course, there are some subjects that lend themselves to being taught more effectively through group instruction or a combination of group and individualized methods. Some of the effective methods used

in teaching a group are lectures, discussions, films or filmstrips, and records. Demonstrations, role-playing, and projects can be used either with a group or with the individual student.

Individualized techniques include the use of programmed instruction, textbooks, workbooks, and study guides. Some teaching techniques combine group and individual instruction by using PerceptoScope materials, programmed lectures, films, and games.

PERCEPTOSCOPE

To assist inmate trainees with extremely low educational levels to read well enough to master shop-related classwork, a reading improvement class was set up in the Draper project. The Supplementary Instructor reported that trainees complained about having to attend, were often late in getting to class, and dreaded the humdrum practice that is inevitable for a person learning to read. After investigation of the PerceptoScope and the reading programs designed for it, the staff agreed to try out the instrument with the special reading group. The trainees' attitudes toward the class changed immediately. So eager were they to continue the class that they were willing to review programs they had already completed when the project could not get additional programs.

The PerceptoScope meets all visual-aid needs with one instrument. It enables the instructor to use still projection for material requiring extended viewing and discussion. Its tachistoscopic projection feature helps viewers to develop the skill of rapid and accurate perception. Motion pictures may be used with variable speeds of from 1 to 24 frames

per second and may be instantly stopped and reversed. It is possible to use a front and back film superimposed and projected together for controlled reading exercises which require precise pacing.

The mechanical gymnastics that are possible with this machine are particularly effective in holding the interest of inmate trainees who have little or no motivation to participate in a reading improvement program.

Much of the trainees' success in the Draper reading program must be attributed to the instructor's creative use of the instrument. His enthusiasm in making a game of learning seemed to draw the most reluctant learner into active participation. If trainees were sensitive about answering questions individually, he would get them to choose partners and compete with other partners. As soon as he sensed that they were ready to compete on their own, he would break up the partnerships, and trainees who by then had gained self-confidence by working in a partnership were eager to outdo their former partners.

The following grade level increases derived from pre- and posttest scores on the Metropolitan Achievement Test (Reading Comprehension):

READING IMPROVEMENT CLASS

	Grade Level Increase of Non-participants	Grade Level Increase of Participants*
Auto Service Station Mechanic-Attendant	3.2	2.3
Barbering	-0.5	3.0

Bricklaying	.9	2.5
Electrical Appliance Repair	-.8	2.1
Welding	.8	2.6
Total Average grade increase in reading comprehension	.7	2.5

*Participants in Reading Improvement Class received a total of 40 hours of instruction.

The student with the highest grade gain had a beginning reading level score of 4.9 which he increased to 9.7, a gain of 4.8. (His beginning total composite average score was increased from 6.9 to 9.2 for an overall gain of 2.3.) The student with the lowest increase had a beginning reading level of 6.8 which he increased to 7.3, a gain of .5. All students in the special reading program showed a total composite average increase of 2.5, reflecting significant grade level gains in all subtest areas of the post achievement test.

Some of the intellectual games now on the market are excellent methods by which certain subject matter can be taught. Interest in academic subjects is stimulated by the use of intellectual games, according to reports from Nova School, Ft. Lauderdale, Florida. There, educators are experimenting with intellectual games and finding them beneficial for the academic growth of their students. Experiments show that there is definitely an increase in the rate of learning when compared with other instructional methods used to teach mathematics. Nova School reports indicate that students like the games and are learning unusual skills from their use of them. The

fact that students enjoy this technique of learning seems to be in their favor, especially if they are used with groups who become very easily bored.

Regardless of what methods are used, the students need close supervision in educational and related activities which are designed to help them to develop as total persons. Thus, supervision is another vital function of the teacher who acts as a manager. Keep in mind that the main purpose of supervision is to assist the students in solving problems and to encourage production.

A manager who understands the best methods of meeting individual needs is one who knows how to best motivate a group or an individual. Psychologists agree that while motivation may be either positive or negative, it should support desirable learning behavior. Reinforcers--rewards for progress--are considered to be excellent motivational devices because they meet a student's need to be recognized.

In our program at Draper, we consider the Outstanding Student Award as one such reinforcer. Every two weeks the vocational project selects an outstanding student from each of the seven courses. Students accumulate points on the basis of a rating scale which is completed daily by the instructors. Training progress, personal hygiene, personal-social relations, reliability, and interest are emphasized. The students who accumulate the greatest number of points every two weeks receive a small monetary award which is presented in a chapel program. In addition, the outstanding students are written up in the prison newspaper and have their photographs

posted on the school bulletin board. The photographs are later presented to the students who win this honor.

A balancing, though negative, feature of this award is that 25 points are deducted from a student's total if he received disciplinary action during the two-week period.

Compliments encourage a student to improve his performance. Other positive reinforcers that we use include the following: the opportunity to earn a certificate of high school equivalency, MDTA Graduation Certificate, money for prescribed achievement, reports for placement and parole, rating sheets, trophy for the week, tests, opportunity to serve as instructor's assistant, and progress charts.

One of the most successful ways in which an instructor can motivate a student is to show a sincere interest in his progress and to make sure that the student's instruction is related to his chosen occupation. Another way is to challenge the student by assigning obtainable goals, then gradually but continually raising the goals as he progresses. Allowing the student certain training-related privileges, as long as he does not abuse them, is another motivational force. The inmate who has seldom been given an opportunity to show that he is trustworthy responds favorably to an instructor who creates opportunities for him to develop his trustworthiness.

A teacher who wants the respect and confidence of his students should remain calm in spite of what happens. To let students know that they can irritate or disturb him to the point of losing his temper is the quickest way for a teacher to lose control of the situation.

One vocational instructor, whom I know, had difficulty in communicating with his students. He, unfortunately, was an explosive person who easily lost his temper. When one of his students inadvertently bumped him as they met in a doorway one day, the instructor attacked the student verbally, using very abusive language, before the student had a chance to apologize. This is only one of the many occasions on which he quickly and easily lost his temper. His students began to lose respect for him because they needed a more stable person to whom they could look for guidance and with whom they could identify.

A teacher who is working with offenders is in a position in which he simply must behave maturely, for however immature his students may act from time to time, they need to be treated as mature adults if they are to be expected to grow into that role.

A student's interest in learning is usually contingent or dependent upon his needs or interests. If these contingencies are planned and managed to fit each student's needs, the probability rate of learning can be much higher than if they are left to chance. A good teacher is what we call a <u>contingency manager</u>.

Occasionally it is a difficult problem for the teacher to discover just what will motivate certain of his students. One student in the third section of Auto Service Station Mechanic-Attendant training who entered the project with an extremely low educational achievement level seemed to be an impossible case. His vocational instructor was unable to get him to respond to any questions, nor were the Supplementary or Basic Education Instructors any more successful. He seemed to be either so

disturbed or disinterested that on many occasions he did not even acknowledge their questions. At other times, he seemed unable to respond

The problems being encountered with this student were mentioned at a staff meeting where the low educational achievement of many of the trainees was noted as hindering the overall progress of the training program. The welding instructor shared his own technique of reading aloud to a student who was unable to comprehend classwork, and the Auto Service Station Mechanic-Attendant Instructor, responding to the suggestion, noted that if one considered the student's apparent motivation, someone would have to also listen for the trainee in question. The problem of trying to communicate with this student was a desperate one, and when all efforts failed, the student was referred to the counselor to be dropped from training.

Painstakingly the counselor attempted to reach the trainee. After coaxing him to relax and feel at ease, the counselor was finally able to get the inmate to mumble a few words and phrases. Although his message was incoherent, the counselor was encouraged and decided not to drop the student right then. This first session with the counselor after training began was somewhat significant in that the trainee then reported for counseling sessions on a voluntary basis, although he still had a great deal of difficulty in stating his problems

While the counselor and instructors knew that perhaps little could be done to train the boy as an entry-level tradesman, they also knew

that a great deal of progress would have been made if he could be led just to communicate with others. Therefore, they allowed the student to continue in training where he remained, for a while, completely uncommunicative, sometimes falling asleep in class.

When the trainee first entered the Supplementary classroom and the instructor asked his name, fellow students had to reply because he only mumbled. Many of his fellow students laughed. One, coming to his defense, remarked, "He may not be able to talk, but you ought to hear _____ sing." The trainee was obviously embarrassed, so the instructor merely replied that he would like to hear him sing sometime, then let the subject drop.

Some weeks later, the instructor was putting away a series of Earl Nightingale tapes to which the class had been listening when he noticed this student staring at the tape recorder with obvious interest. The trainee finally mumbled several words and the instructor realized that he wished to know if the recorder made tapes. Nodding his head, the instructor showed the student the microphone. The boy's face lighting up was something to see. At this moment, one of the other students asked, "Why doncha sing a song, _____?" There was no response for several moments. "Wanna borro that s'time," the trainee finally mumbled, then walked out of the classroom. This was his first occasion to make a response in class.

Because of his low educational achievement level, this student was naturally assigned to the reading improvement class, and it was there

that he became fascinated with the taping equipment and began to talk into a recorder. Of course, his reading performance was very poor, he drew rather than wrote his name, and his progress in the judgment of an outsider would have been nil. Nonetheless, the instructor, noting the trainee's interest in the recording equipment and the color in his voice when he recorded, paced his approaches very carefully and deliberately. On the next occasion when the larger Supplementary Class used the tape recorder, the instructor asked the trainee if he wished to sing into the microphone. The boy accepted the offered microphone, but was unable to perform. The instructor promised him he might try again another day.

On the second occasion when he was offered the microphone, the trainee said, "Start the music," and started clapping. Someone laughed. And again he was unable to sing, although he appeared to be very anxious to do so. Sensing the trainee's embarrassment, the instructor left the room to see what would happen. Just about that time, I walked down the corridor and found the instructor standing outside the classroom. He explained what was going on, and, by then, we both could hear the trainee clapping out a rhythm on the table and singing to his heart's content.

When the instructor returned to the room, the trainee handed him the microphone and tried to speak. Since he could not, he took the mike back and sang, "Thank You."

So effectively had the boy been able to express himself musically that this episode was shared with his vocational instructor who allowed

him to make a set of bongo drums. As a reward for progress made by the entire class, the trainee was allowed on several occasions to play the drums and sing for the other students.

The combined efforts of the instructors and the counselor in reaching this trainee have been richly rewarding. He began to inquire of his instructors on Monday if they had a nice week end. One day when the Supplementary Instructor visited the vocational class, the trainee noticed a chair was not available for him and offered his own.

One might wonder just how this student's progress may be evaluated. We can't say that he is the best student in the class, nor can we say that he is ready to get a job. But we do know that he has made more progress than most of the boys in the class because he had farther to go. Although he will need additional training after graduation in order to perform at entry level, one of his greatest blocks to learning has been removed, for he is currently a wellspring of verbalization.

It is important that this boy be placed in a job where he can receive additional training and where the channels of communication can remain open.

Evaluation is a touchy subject, unless it is approached in a manner that allows the student to understand what progress he has made and what specific ways he can improve. Feedback from a fair test or from an instructor's observation of the student's performance will allow the teacher and the student to determine which areas need improvement. This feedback can be in the form of progress charts and rating sheets. Since no student wants to be embarrassed by this information if it is unsatisfactory,

it is best to avoid public announcement of poor or failing grades. If failures do occur, the teacher and student should take stock and find out exactly what the trouble is. It might be the teacher's fault. Maybe test questions were not clear, or perhaps they were tricky. It could be that the teacher is guilty of making errors in his rating. Errors may be reduced if a rating form is developed very carefully and is conscientiously kept each day.

The easiest way to avoid this task of rating is to say that these people do not want to be tested or graded. I will agree with you, if the same methods of grading that were sometimes used by their teachers in the past are still the criteria for testing and grading. But, if a good diagnostic or rating form with minimum error is employed and the teacher explains to the students the real purpose of testing and rating, a good measurement of students' progress can be made. As long as these methods of evaluation are properly used, the students will ask for this measurement. In fact, not only will the students demand it, so will potential employers.

Evaluation can motivate the student or it can discourage him, depending upon the attitude the teacher takes about it. If a teacher fails to provide a fair system of rating a student, or if he is careless in his record keeping, he may well do more harm than good. When he is effectively evaluating a student, the interest a teacher can show in the student's personal needs and progress can be the key to motivating the student to make the desired response.

IN-SERVICE TRAINING

The teacher who works with offenders will require specific training for some of the roles he will need to play. For instance, a teacher who is also a friend and counselor should understand the personal problems and needs of the inmate. Techniques in counseling is an excellent area, then, for in-service training. Human relations is another. The doctor who is responsible for the diagnosis, prescription, treatment, and cure should know how to use different types of instruments for assessment and how to interpret their results diplomatically; he should know how to observe carefully, to determine deficiencies in basic education, vocational training, and personal-social development, to relate education to chosen occupations or real-life situations, to provide means of practicing skills, to recognize behavior change that would lead to employability. Both experience and training are necessary if these duties are to be effectively carried out.

Specific training is also required for the teacher who, as manager, must learn how to do job analysis and lesson plans, to schedule various activities, to develop good progress charts and tests, to use various teaching techniques, and to effectively supervise, motivate, and evaluate students. The training and experience necessary to effectively fulfill these roles of friend, doctor, and manager will take a great deal of time and effort, but a good teacher should be dedicated and interested enough to learn how to best serve his students.

In-service training may be in the form of conferences, workshops, programmed instruction, references, and current publications which pertain

to the teacher's problems. This in-service training is absolutely essential to the personal growth and development of the teacher and, in turn, to the growth and development of the offenders whom he will teach.

APPENDIX D:

FACT SHEET

Name: Vivek Pangphothipong

Title: Chief of Vocational Promotion Division
Department of Vocational Education
Ministry of Education

Schedule: Will be visiting Montgomery, Alabama and the Draper Project at Draper Correctional Center in Elmore from June 10 thru June 15.

Biographical Sketch: Mr. Vivek, age 47, received his B.S. degree in engineering from Chulalongkom University, Thailand, and his M.S. degree in industrial education from Wayne State University (1956). Since his return to Thailand, he has served as a classroom instructor, translator of text materials, developed follow-up studies, etc. The participant is currently charged with non-degree skill training for out-of school youth, operating special training centers in the City of Bangkok. In addition, Mr. Vivek supervises a number of mobile units which provide short-course skill training for indigenous personnel living in the remote regions of Thailand. The mobile units are moved from community to community, as the need is determined.

When he returns to Thailand he will be responsible for developing an expanded and improved program with full support of the Ministry of Education.

Purpose of Trip to U.S.: To study the course content, methods of teaching, and use of aids to learning currently being used by contractors serving the office of Education. Also to view schools in which trade skills are taught in short courses with length of training varying with the difficulty of the skill and the level of skill required for entering workers.

Trip Sponsored by: The Agency for International Development, a division of the State Department.

Purpose of Visit to Draper Project: To observe the teaching methods, and aids utilized by the Project, which provides education courses of short duration six and twelve months.

APPENDIX E:

SCHEDULE OF ON-SITE VISIT
for

MR. VIVEK PANGPHOTHIPONG
Chief of Vocational Promotion Division
Department of Vocational Education
Ministry of Education
Bangkok, Thailand

SATURDAY, JUNE 10

Arrives at Dannelly Field 10:15 p.m. He will be met by Mrs. Seay and taken to his hotel, the Jefferson Davis in Downtown Montgomery

SUNDAY, JUNE 11 - 1 p.m.

Luncheon at the home of A. Frank Lee, Commissioner of Corrections

Luncheon will be followed by a tour of Montgomery with Mrs. Seay

A visit to several homes of the staff members has been arranged

MONDAY, JUNE 12 - 8:30 a.m.

Mrs. Seay will call for Mr. Vivek and they will go to the office of Mr. J. F. Ingram, Director of Vocational Education. From there, they will go with Mr. Ingram for a tour of the John Patterson State Trade School. Mrs. Seay will also take him to meet Mr. A. F. Lee, Commissioner of Corrections, to discuss the process of corrections in Alabama's prison system

Afternoon:

Slide orientation to the Draper E&D projects

Tour of Draper's E&D programs and other phases of the prison's activities

Conference with Warden Watkins

TUESDAY, JUNE 13

Morning:	Visit Experimental-Academic School	Ben Franklin, Director National Institute of Mental Health Project
		Carl Clements, Research Associate National Institute of Mental Health Project
	Discuss Materials Development Unit	Martha Terry, Editor-Coordinator

Lunch:

Afternoon: Dinner with Thailand officers attending Allied Officers School

At Maxwell Air Force Base.

Discuss Recruiting and Interviewing — Paul Cayton, Supervisor Counseling and Guidance

Job Placement and Follow-up — Walter Bamberg, Job Development and Placement Officer

Evening: Dinner with Mr. & Mrs Seay and Dr. McKee

WEDNESDAY, JUNE 14

Morning: Work with vocational training instructors

Noon: Luncheon at Frank Lee Youth Center. Mr. Lee, Dr. McKee, Mrs. Seay, Mr. Vivek

Evening: Dinner again with Thailand officers

THURSDAY, JUNE 15

Morning: Review and discussion with Dr. McKee, Mrs. Seay and Paul Cayton of problems in Thailand and how methods used at Draper might be implemented

Afternoon: Depart at 3:30 for Atlanta, Georgia